Space Weather Forecast

Issued on Saturday, 13 November 2021 at 12:12 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: No significant activity.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar Activity was Low, with two sunspots on the Earth-facing Sun. The main sunspot is a small bipolar region in the southwest, which was originally a mature unipolar spot that has since developed a trailer sunspot. This was the source of a common class flare during the morning of the 13th. The other sunspot region is a small unipolar in the northwest disc. No Earth-directed coronal mass ejections (CMEs) were observed.

Solar Wind / Geomagnetic Activity: The solar wind was characteristic of a slow regime, with a gradual decline in the solar wind speed within background levels. Both the number of particles comprising the solar wind and the magnitude of the magnetic field associated with them were unremarkable and at background, while the solar wind magnetic field was largely co-aligned with Earth's to limit any activity. The net result of these solar wind measures was for quiet geomagnetic indices throughout.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be Very Low to Low, with a chance of common class flares, primarily from the main bipolar sunspot region on the Earth-facing disc.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Background solar winds are expected, with no notable enhancement through the forecast period. Geomagnetic activity is expected to be mostly Quiet, with a slight chance of Unsettled (Kp 0-3).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to remain at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Met Office

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	5
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	2	2	2	2
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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